Welcome

JOINT CULINARY CENTER OF EXCELLENCE (JCCoE)
2010 RESERVE COMPONENT FOOD SERVICE WORKSHOP
FACILITIES AND EQUIPMENT DIVISION

Agenda

- Our Mission/ What we do
- Modern Burner Unit (MBU) up grade
- Modern Kitchen Trailer (MKT) Reset – Kit
- Thermostatic Control
- Appliance Burner Types
- Containerize Kitchen (CK)
- Battlefield Kitchen (BK)
- Food Sanitation Center 2 Modification Kit FSC
- Melted Sink, Coupler, & Heat Shield
- Multi Temperature Refrigerated Container System (MTRCS)
- Assault Kitchen (AK)
- Self Powered Tray Ration Heater (SPTRH)

Facilities & Equipment Division

- *Mission: Provides assistance to army installation around the world. Our main focus areas are garrison facilities layout designs, dining facility equipment, army field feeding equipment.*

- Submits required FSE budgets for all MCA projects.

- Prepare equipment schedule for dining facilities and forward to the army corps of engineers

- Subject matter expert for Defense Supply Center Philadelphia, U.S Army Combined Arms Support Command, U.S. Army soldier system Center on new field feeding equipment.

Modern Burner Unit (MBU)

MISSION:

Primary heat source for Cooking Operations in All Army Field Feeding Equipment.

Modern Burner Unit (MBU) Upgrade

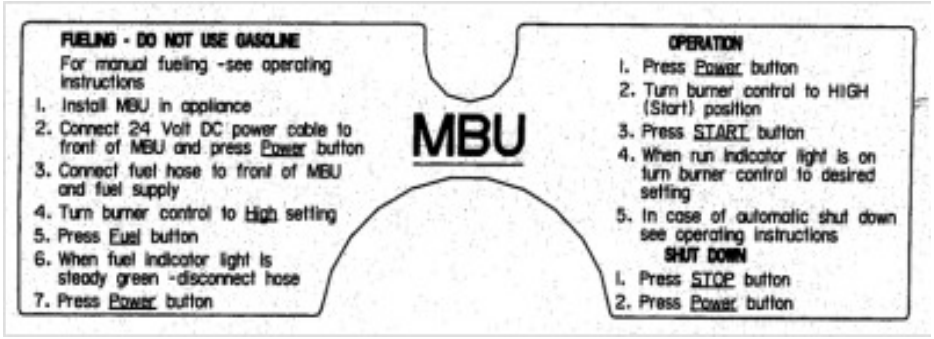
Units in possession of MBU's

- NSNs 7310-01-452-8137 (original) LIN – B38672
- NSNs 7310-01-507-9310 (Current) Lin has been canceled
- Lin causing confusion whether or not MBU is authorized
- MBU is now a Secondary item
- Now longer separately authorized
- MBU are now components of the platforms below

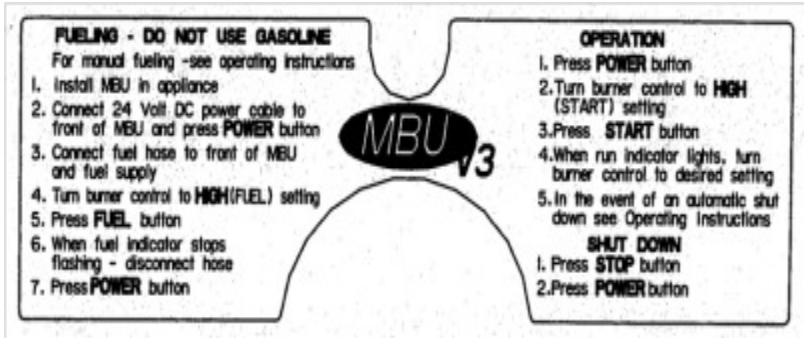
Platform	**LIN**	**# of MBU**
Mobile Kitchen Trailer (MKT)	L28351	6
Containerized Kitchen (CK)	C27633	9
Food Sanitation Center (FSC)	S33399	3
Kitchen Company Level Field Feeding (KCLFF)	K28601	3
Modular Field Kitchen (MFK)	F39561	6

Modern Burner Unit (MBU) Upgrade

Before MWO


FUELING - DO NOT USE GASOLINE
For manual fueling -see operating instructions
1. Install MBU in appliance
2. Connect 24 Volt DC power cable to front of MBU and press Power button
3. Connect fuel hose to front of MBU and fuel supply
4. Turn burner control to High setting
5. Press Fuel button
6. When fuel indicator light is steady green -disconnect hose
7. Press Power button
MBU
OPERATION
1. Press Power button
2. Turn burner control to HIGH (Start) position
3. Press START button
4. When run indicator light is on turn burner control to desired setting
5. In case of automatic shut down see operating instructions
SHUT DOWN
1. Press STOP button
2. Press Power button

After MWO


FUELING - DO NOT USE GASOLINE
For manual fueling -see operating instructions
1. Install MBU in appliance
2. Connect 24 Volt DC power cable to front of MBU and press POWER button
3. Connect fuel hose to front of MBU and fuel supply
4. Turn burner control to HIGH(FUEL) setting
5. Press FUEL button
6. When fuel indicator stops flashing - disconnect hose
7. Press POWER button
MBU V3
OPERATION
1. Press POWER button
2. Turn burner control to HIGH (START) setting
3. Press START button
4. When run indicator lights, turn burner control to desired setting
5. In the event of an automatic shut down see Operating Instructions
SHUT DOWN
1. Press STOP button
2. Press POWER button

- Once units update MBUs

- Hand receipts holders must contact their supply or PBO to update hand receipts.

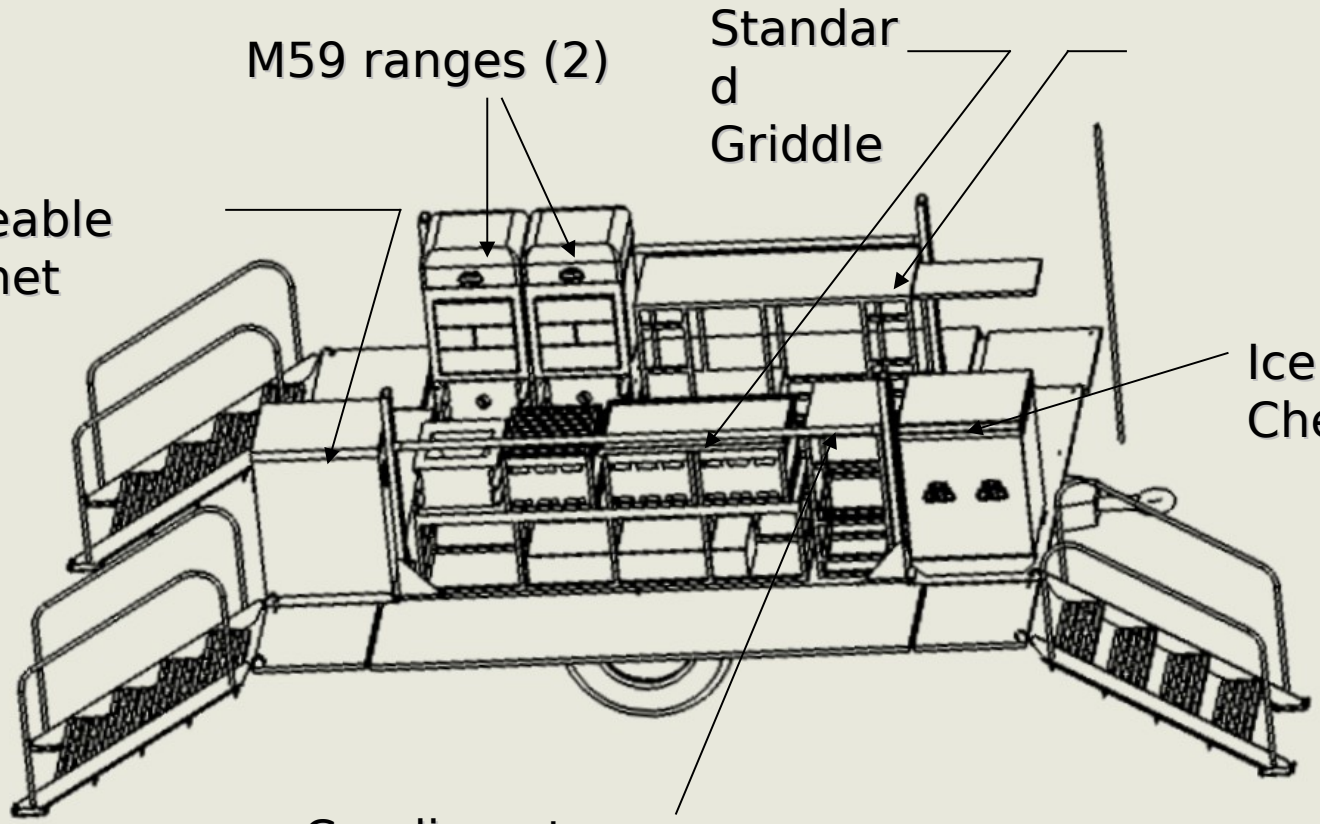
Fuel Delivery Block Upgrade

FUELING - DO NOT USE GASOLINE
For manual fueling - see operating instructions
1. Install MBU in appliance
2. Connect 24 Volt DC power cable to front of MBU and press POWER button
3. Connect fuel hose to front of MBU and fuel supply
4. Turn burner control to HIGH (FUEL) setting
5. Press FUEL button
6. When fuel indicator stops flashing - disconnect hose
7. Press POWER button
MBU V3
OPERATION
1. Press POWER button
2. Turn burner control to HIGH (START) setting
3. Press START button
4. When run indicator lights, turn burner control to desired setting
5. In the event of an automatic shut down see Operating Instructions
Shut Down
1. Press STOP button
2. Press POWER button
START
STOP
HIGH (START) (FUEL)
ULTRA LOW
Run
Warm Up
Fueling/Full
Low Fuel
Voltage

Control panel and data plate decals will be changed to reflect updated MBU

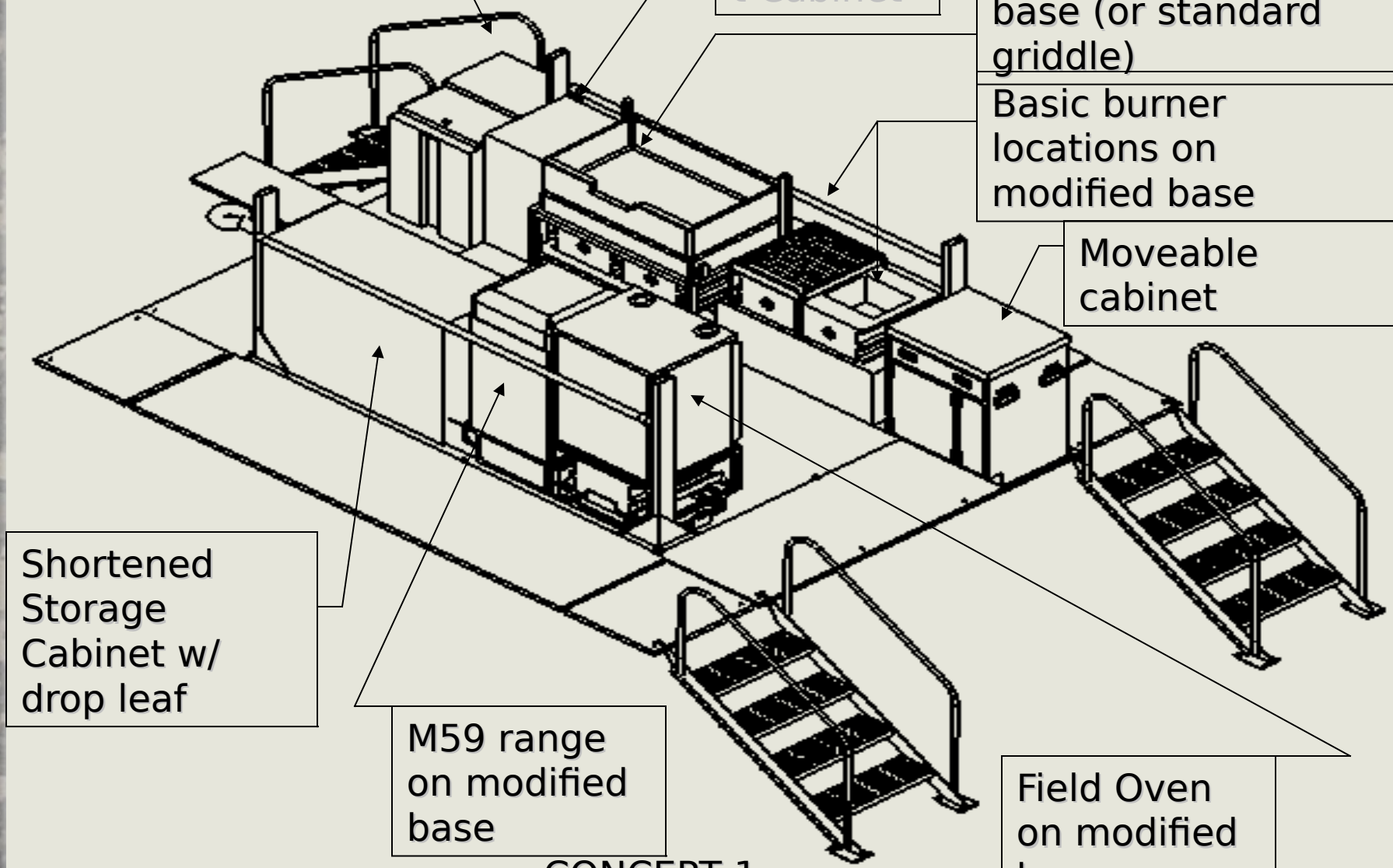
Current NSN

MKT Reset Kit



MKT Reset Kit

U.S. ARMY QUARTERMASTER SCHOOL


Ice Chest
Condimen t Cabinet
Skillet w modified base (or standard griddle)
Basic burner locations on modified base
Moveable cabinet
Shortened Storage Cabinet w/ drop leaf
M59 range on modified base
Field Oven on modified base

CONCEPT 1

Warrior Logisticians

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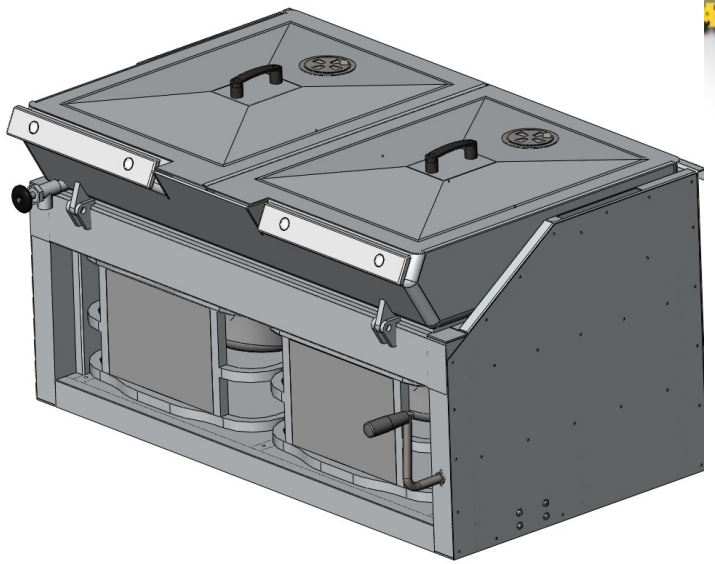

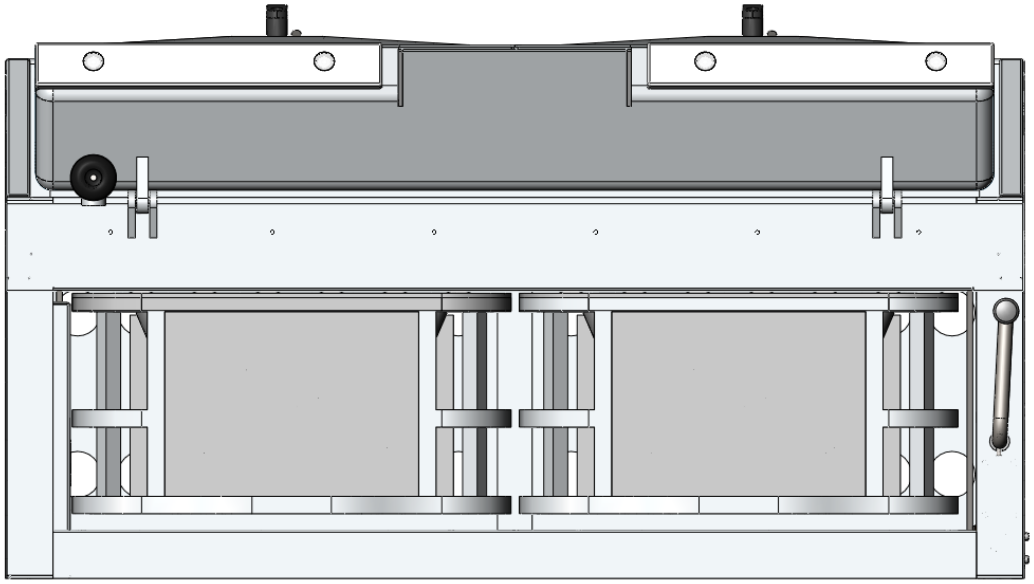

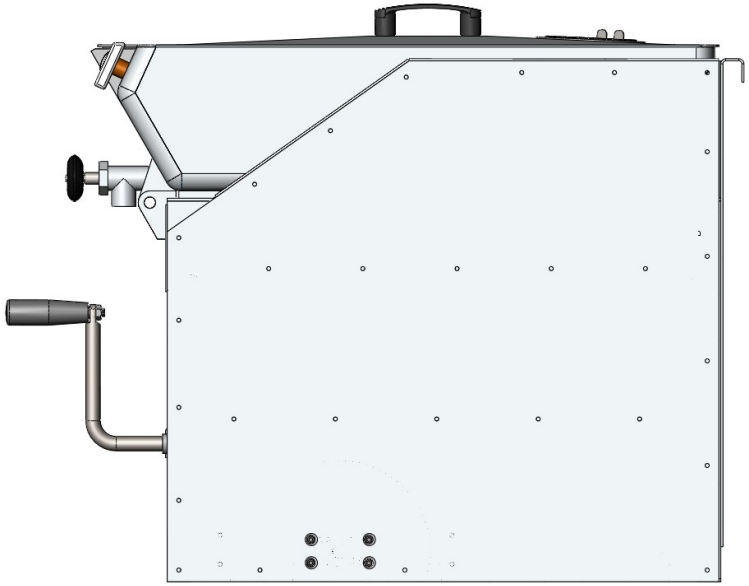

57309002 RevX, Tilt Skillet Screen Shots
REFERENCE ONLY, MSH, 07-16-09

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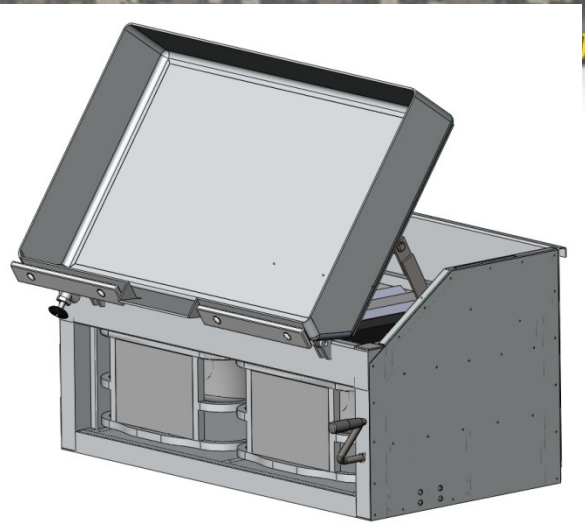
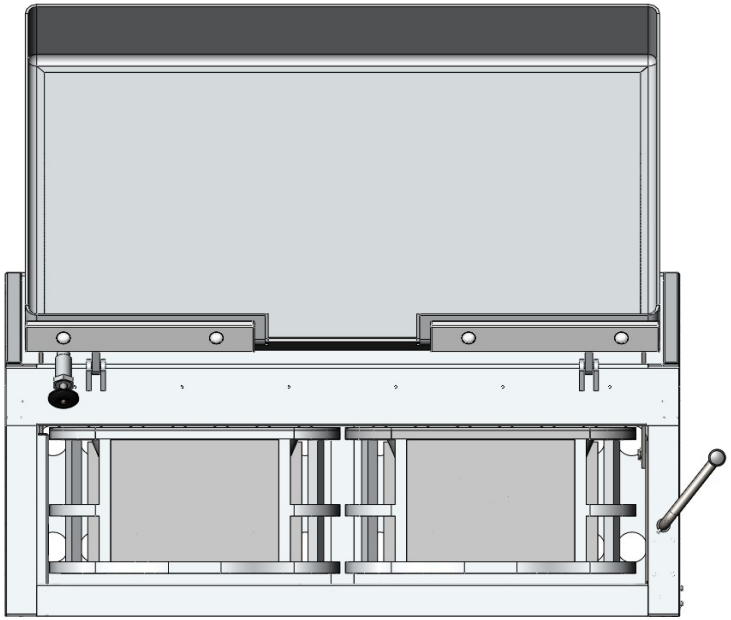
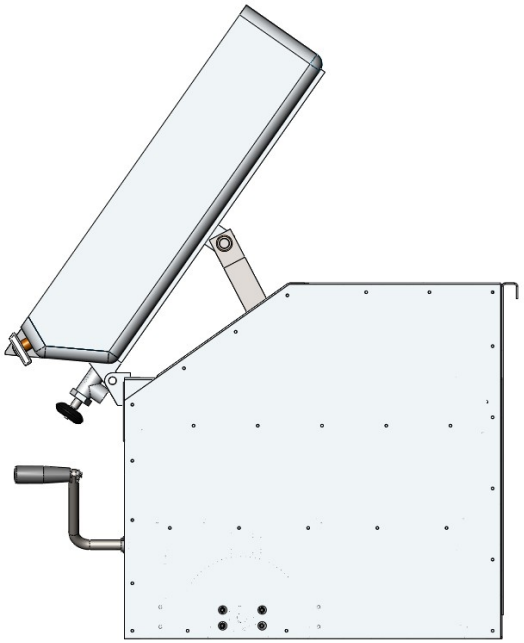






57309002 RevX, Tilt Skillet Screen Shots
REFERENCE ONLY, MSH, 07-16-09

Containerized Kitchen

Purpose:
To improve the working environment and effectiveness of the CK through ECP and the Reset program and align development efforts with the Battlefield Kitchen.

Results/Products:
- Prototype system
- Technical Data
- Test data
- Engineering Change Proposal (ECP)

ROI/Payoff:
- Reduced heat stress for kitchen workers
- Incorporate Sanitation within the CK
- Transition to production through

Containerized Kitchen, P3I Approach

- TOSS contract with Global Defense Engineering
- Consider future compatibility with BK during development
- Develop improved container first
  - Ventilation and layout
- Test with currently available appliances for threshold approach
- Develop improved appliances for objective approach
  - MBU component based
  - Closed combustion where appropriate
  - Modular
  - Thermostatically controlled
- Layout and ventilation can be fielded with currently available appliance (CK, MKT, FSC) if new appliance development is delayed
- New appliances can be integrated as they become available

Thermostatic Control (Prototype)

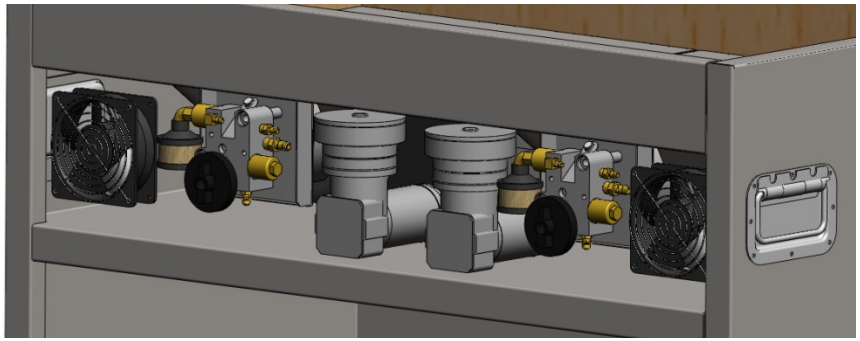
- ✓ Automatically cycles burner on and off to maintain set point temperature.
- ✓ Target applications: Sanitation sinks, CK oven & CK steam-table.
- ✓ Same control designs for all appliances.
- ✓ Planned fielding in 2008

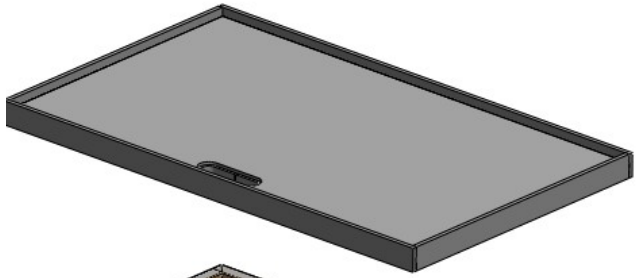
Appliance Burner

Burner Types

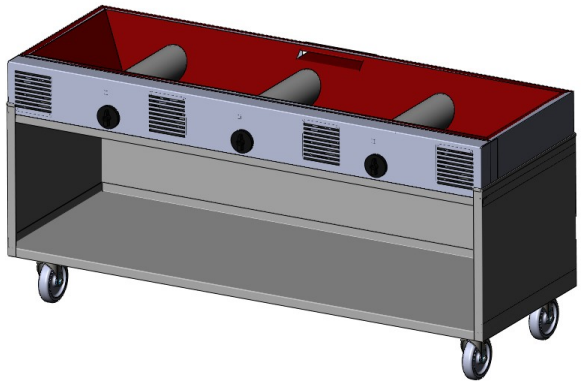
- Not using standard MBU
- Utilizing MBU components or COTS parts
  - Possible long development time and cost associated with a new burner configuration
  - Currently only consideration MBU components for expediency
- Multi-burner configurations
  - Standardize widths at 18” increments
  - One, two or three burners
- Burner using direct flame and infrared for heat transfer
- Fuel source not integral with burner – plug into 5 gallon can or other source.
- Burner components accessible from operator front for ease of repair or replacement
- Air cooled design
- Inducted draft design

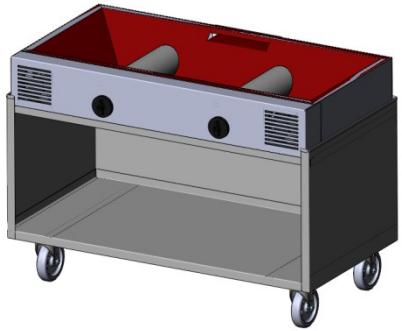
Burner Concept 1

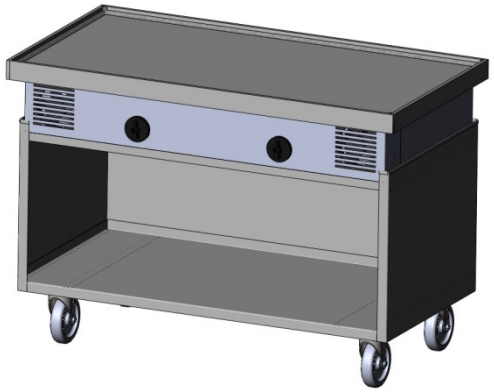


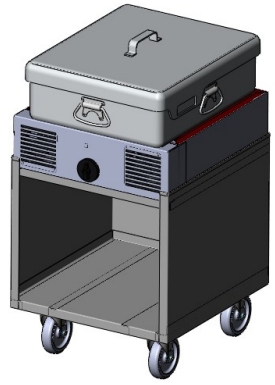


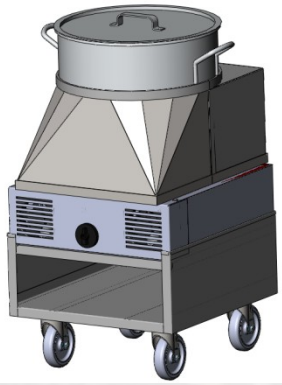
Burner Concept 2 Configurations - Multi-Base Design









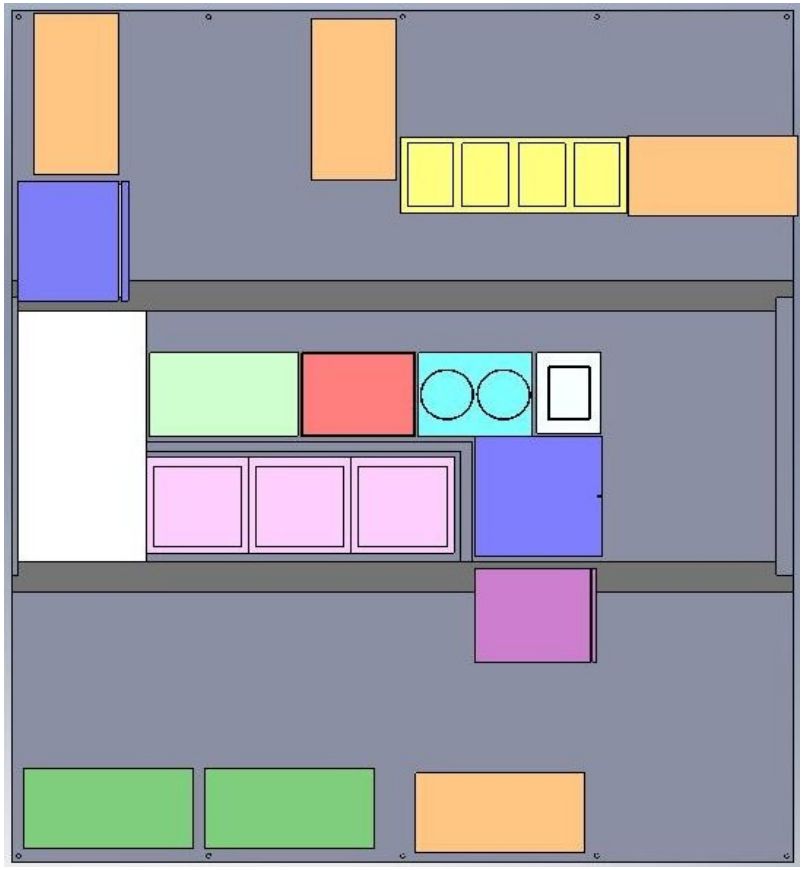


Containerized Kitchen, P3I Approach

- Reduced noise
  - Improved oven, sanitation sinks, and skillet will have closed combustion
- Reduced heat
  - Vent hood will be more effective
    - Larger fans
    - Back wall for improved air flow
- On-board sanitation
  - FSC system will fit in proposed layout (threshold)
  - Improved sinks will be large and thermostatically controlled (objective)
- Improved air quality inside kitchen
  - Vent hood will remove more exhaust (threshold)
  - Improved appliances will vent directly out of kitchen (objective)
- Simplified electrical system
  - ECU require complex energy management system
- Ability to cook and serve simultaneously
  - Stand alone, heated serving line

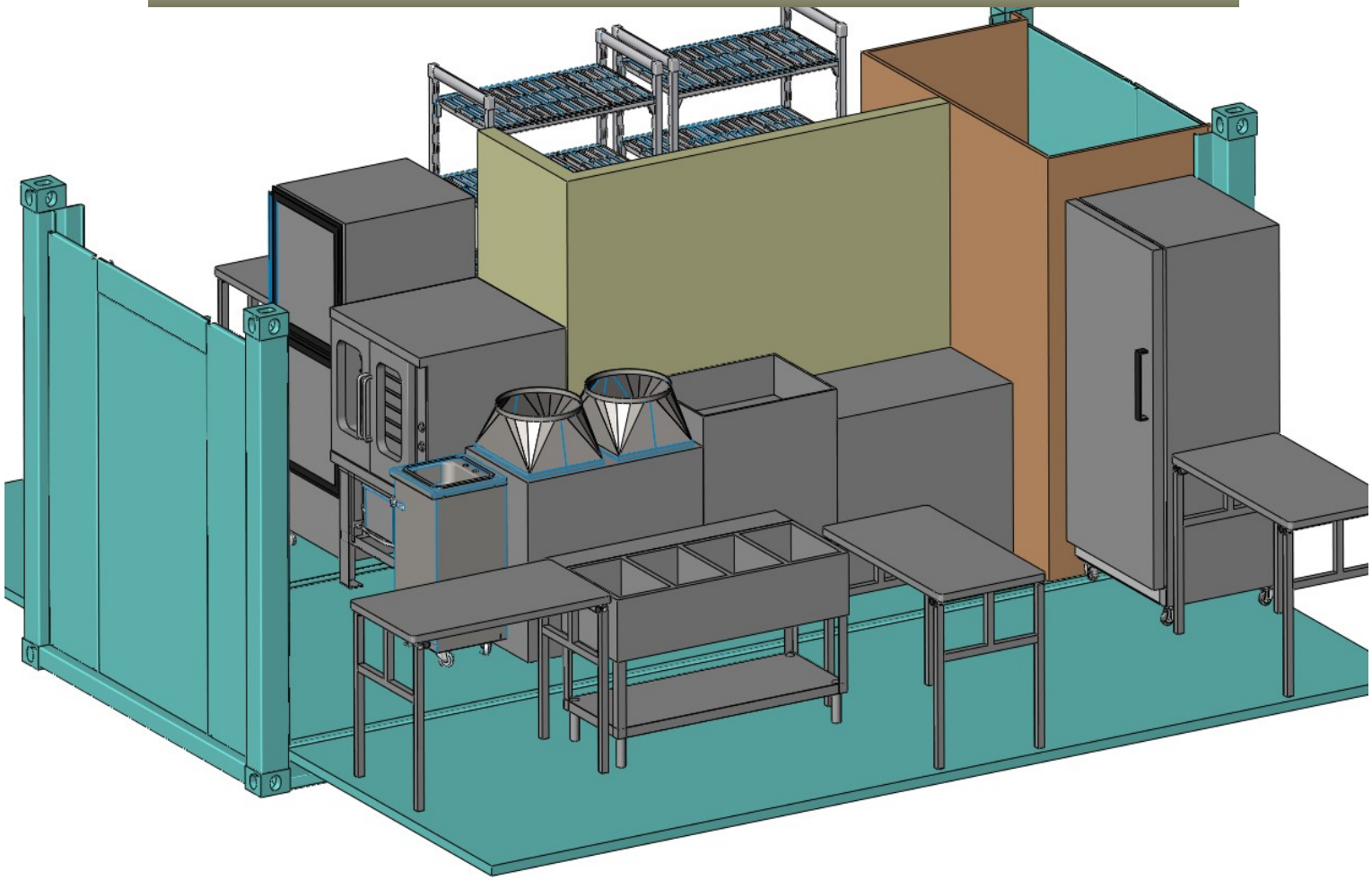
Containerized Kitchen, P3I Layout

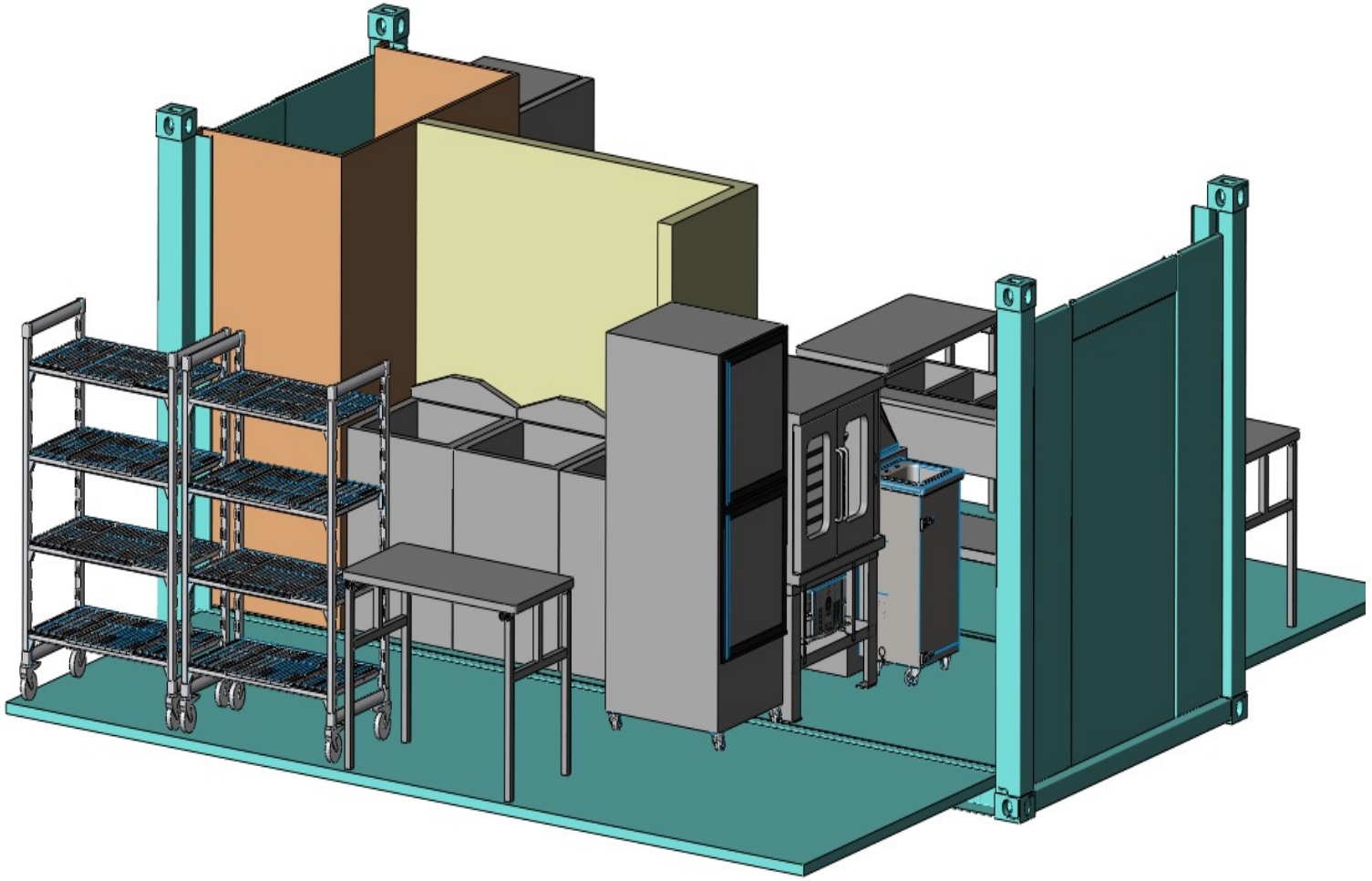
Purpose:
To improve the working environment and effectiveness of the CK through ECP and the Reset program and align development efforts with the Battlefield Kitchen.



ROI/Payoff:
- Reduced heat stress for kitchen workers
- Incorporate Sanitation within the CK
- Transition to production through ECP and to the ILSC CK reset effort

NEED INFORMATION





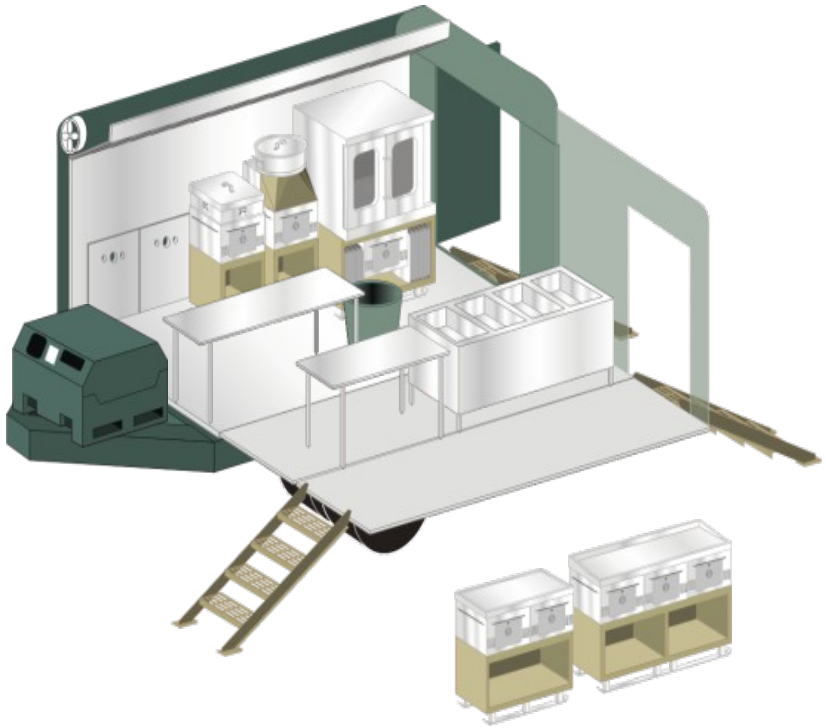
Battlefield Kitchen (BK)

Purpose:

To replace the aging MKT with a modern kitchen that increases mobility, efficiency and reduces personnel requirement

ROI/Payoff:

- More efficient kitchen operations
- Less heat and noise in kitchen
- Appliance compatibility between army field kitchens



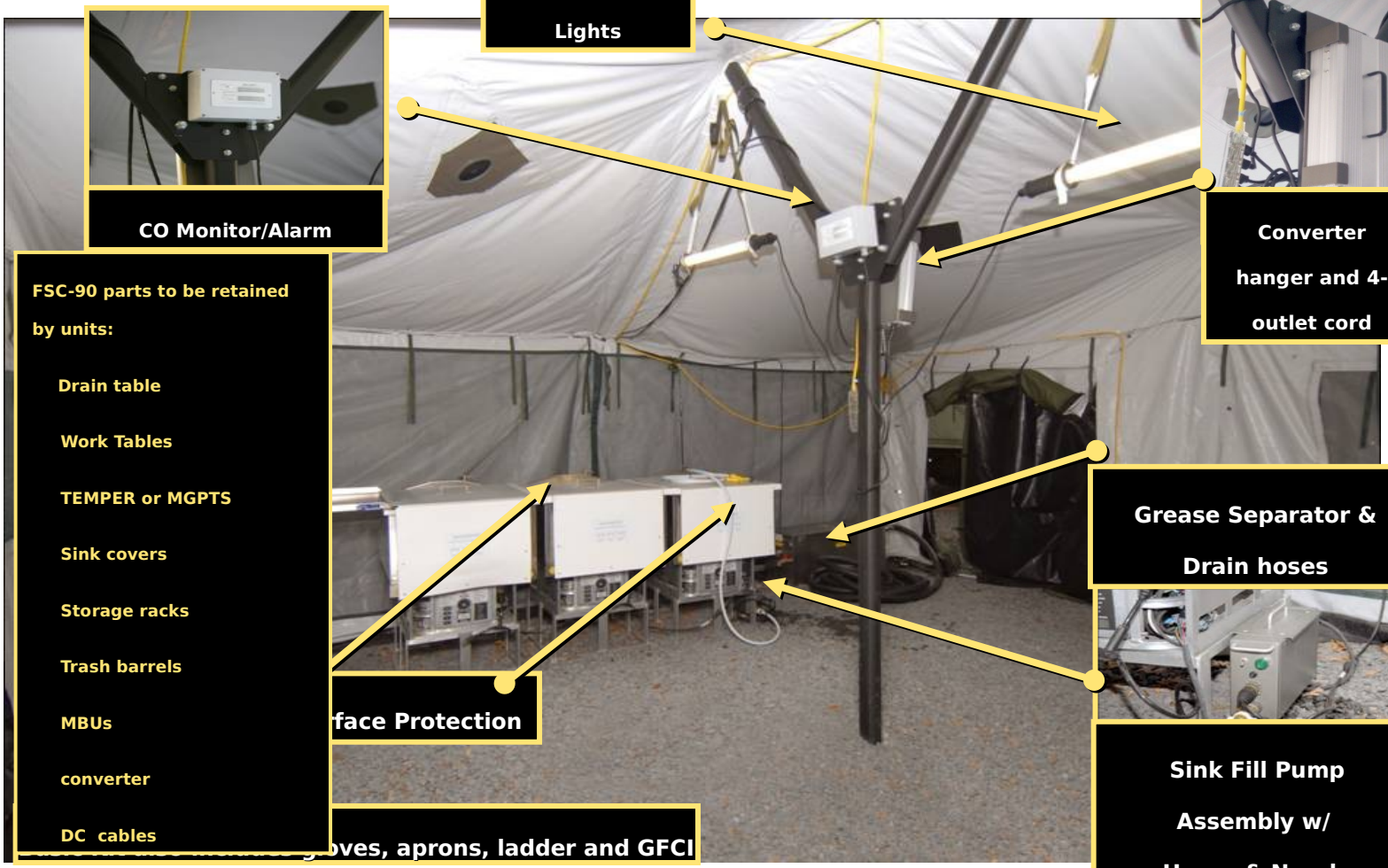
Battlefield Kitchen

- Updated Platform
  - Improved mobility
- Reduced noise inside kitchen
  - Appliances will have closed combustion
    - Pots may still benefit from open flame
- Improved air quality inside kitchen
  - Vent hood that will interface directly with appliance intake and exhaust
- Improved operator and overall efficiency
  - More efficient layout
  - Easier set-up
  - Thermostatic control for appliances
  - More efficient heat transfer of appliances
    - Faster
    - Lower fuel consumption
- Hybrid power
  - Extended generator life

FSC Modification Kits

- User priorities based on Nov 07 IPT meeting in their order of importance
  - (1) All FSC-90s to get Basic Kit – see next slide
  - (2) Once all FSC-90s upgraded to FSC-2 standard then add (in order of importance) as funds allow
    - Thermostatic control units (TCU)
    - Gray water reuse pump assembly
    - Sink exhaust assembly
- Global to deliver first production lot of Basic Kits Jul 09
- FUE scheduled Feb 2010
  - Pending publication of MWO and TM change

FSC Modification Kits



FSC Melted Sink, Coupler, & Heat Shield

Melted sink front heat shield

Melted warning labels on front of sink

Melted sink coupler

Multi Temperature Refrigerated Container System (MTRCS)

- The MTRCS is a highly mobile multi-temperature, partitioned refrigerated 8’x8’x20’ ISO system that provides the capability for simultaneous transport and storage of frozen , chilled and/or semi perishable ration components on a single platform directly to the field kitchen site.
- Provides multi temperature product storage of two individually controlled compartments on the move.
- Feeds 800 personnel for 3 days when utilized with a CROP in order to serve two UGR-A meals per day and one MRE per day
- Fully tested and operational in ambient temperatures ranges from -25°F to +120°F

Multi Temperature Refrigerated Container System (MTRCS)

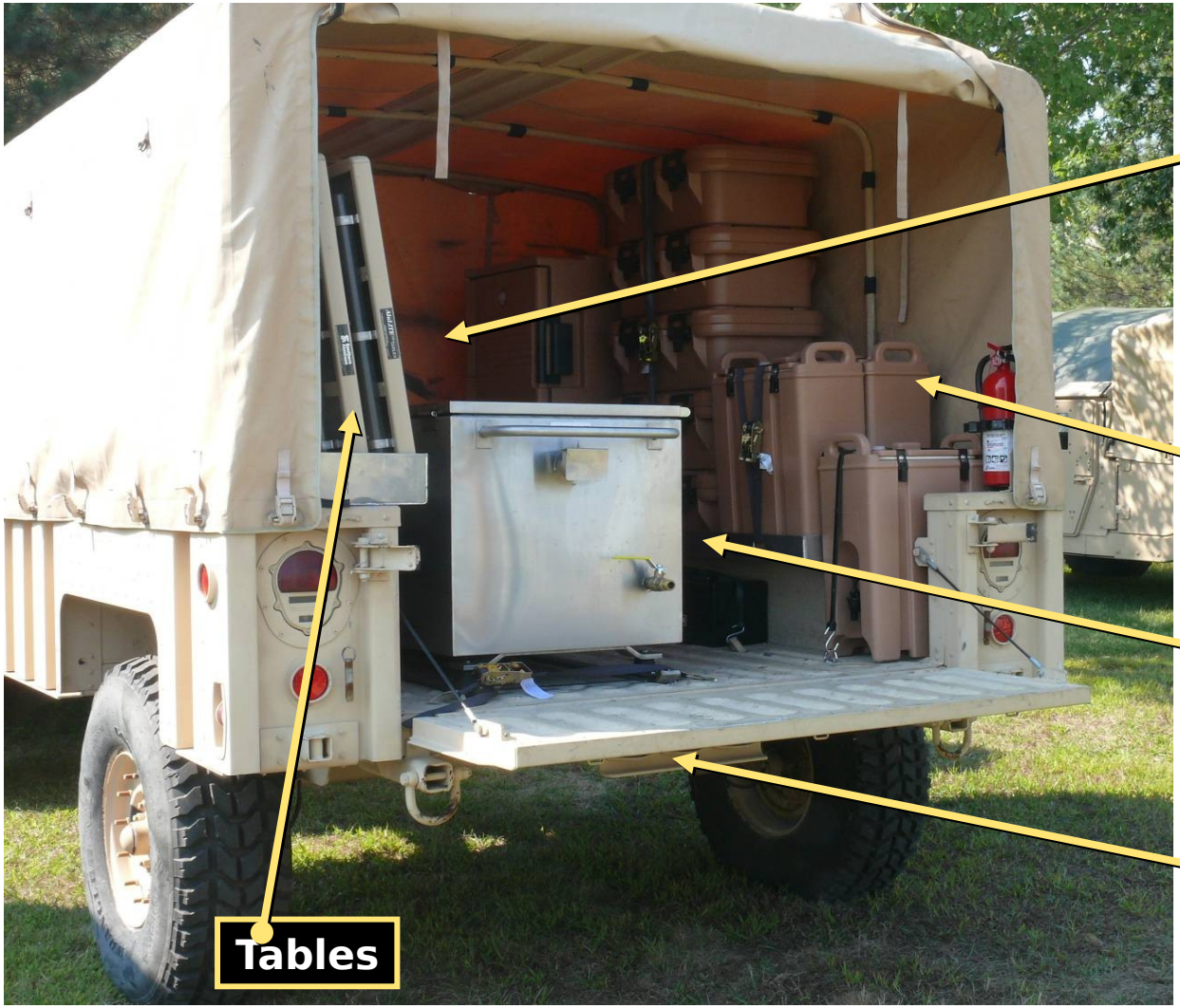
MTRCS, HEMTT & CROP on PLS-T

CROP on PLS-T

Assault Kitchen (AK)

- Heat-on-the-move based field feeding system designed to replace the KCLFF and meet the nutritional requirements of forward deployed Warfighters
- Feeds 250 UGR-H&S meals at a feeding site within 90 of site arrival
- Feeds 500 meals a day at multiple feeding sites
- Electrical power for operation obtained from HMMWV power system
- Minimal setup time at a remote feeding site
- Components can be removed from vehicle/trailer and utilized statically as situation permits
- LTT configuration compatible with armored and unarmored vehicles

Assault Kitchen (AK)



Maintenance Kit and Power Inverter

Insulated Food & Beverage Containers

Tray Ration Heater

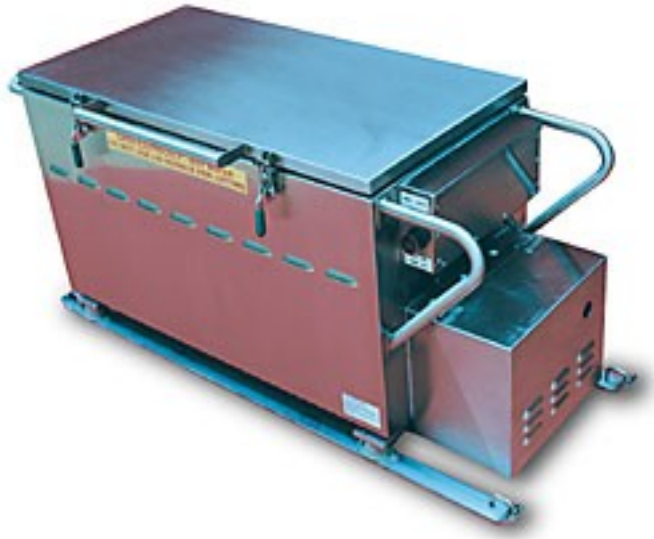
Light Tactical Trailer

AK Key Systems Components

- Tray Ration Heater
- Power Inverter
- Maintenance Kit
- IFCs and IBCs
- Modern Burner Unit
- Stockpot Cradle
- Ice Chest
- Water Cans
- Tool Kit
- Utensils
- Power Cable
- M-59 w/Accessories

Self-Powered Tray Ration Heater (SPTRH)

Purpose:
Develop a self-powered version of the Tray Ration Heater that produces its own operating electricity from the heat of combustion

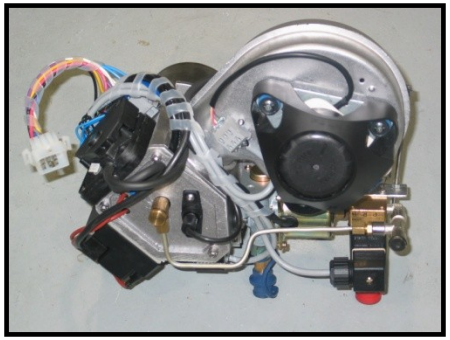


ROI/Payoff:
- Reduction in JP8 consumption
- Improved system reliability
- Completed Performance Specification for procurement – FY10

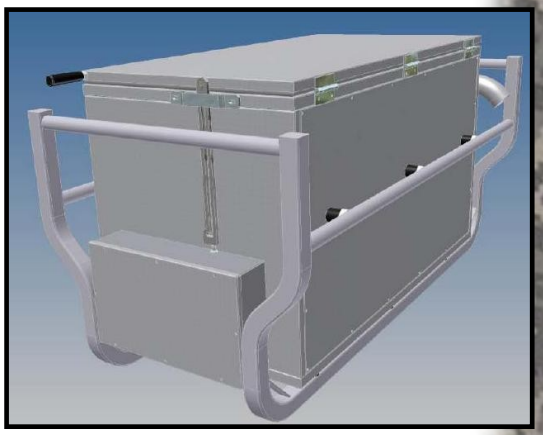
Self-powered Tray Ration Heater

Key STRH Components

Hawkmoor Burner Assembly



Hawkmoor Burner



Battery Side of SPTRH

Thermoelectric on Underside of Tank

Control Panel

Goldie Bailey DSN 687-3354 Comm. 804-734-3354

Wardell Carey DSN 687-3450 Comm. 804-734-3450

Roderick Piggott DSN 687–3329 Comm. 804-734- 3329

Ryan Mebane DSN 687–3122 Comm. 804 -734 -3122

Facilities & Equip. Division Contacts

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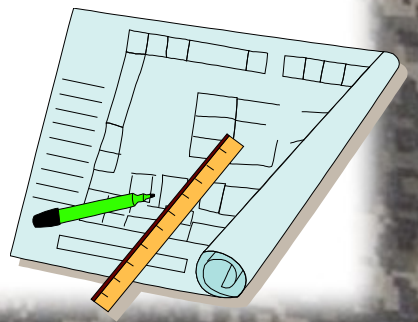

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